

User-oriented Breast Cancer Prevention and Treatment Decision Support WWW Home Page

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Breast cancer (BC) has become prevalent among women in Taiwan in last decade, and is the second leading cause for female cancers. In 1983, the BC incidence rate was only 8.27 per 10,000 women, but it rose to 17.91 per 10,000 women in 1993.

For those women diagnosed with BC, they are often threatened by the fear of consequences and the uncertainty of their future. Clinical evidence has suggested that the more a woman knows about her disease, the better she can cope with the stress and cooperate with physicians. However, due to the lack of time and incentives, health care providers usually do not offer enough information for BC patients to make necessary decisions. Besides, the health education taken place in clinics usually excludes patient's significant others who play an important role at patient's care and psychological well-being. Therefore, a reliable information and help resource is in great demand, and the WWW appears to be an excellent alternative because of its multi-media, readily accessible, easily maintainable, economic, timely, networking, and personal-oriented qualities.

We created a WWW home page designed in consideration of user's concerns and cognitive process. It is composed of four sections: the Information Section, the Communication Section, the Decision Support Section, and the Evaluation Section, and renewed on a monthly basis. The Information Section covers the knowledge and information related to breast cancer, including the physiology of the

breast, the cause, treatment and rehabilitation of BC, and its prevention. The methods and steps for early detection are also included. Both Taiwanese and the western information are collected. The Communication Section covers the information about support groups of BC in Taiwan and its direct links to the support groups, as well as to BC experts, e.g. email. By this mean, users can share their personal stories with others and ask for necessary support. It also contains indirect links, e.g., a bulletin board and a central help desk which can refer users' questions. Moreover, this section also provides maps of related health and medical care resources in selected areas. The Decision Support Section, built with the CGI and JAVA program tools, helps and guides users to build multi-attribute utility models to make decisions like what's the best screening and/or treatment alternatives for her. The recommendation will be given promptly based on an interactive evaluation process, and the reasons of the recommendation will be provided upon request. The Evaluation Section, which is designed for the improvement of our home page and for future work and researches, collects users' feedback. Finally, all components are organized and presented in user's perspective to assure their greatest satisfaction.

The public, medical professionals, and BC patients should be able to benefit from the home page which emphasizes the importance of individual needs, and uses the decision analysis tools to enhance users' problem solving capability.